

## **REMARKS**

The present application relates to hybrid maize plant and seed 39W54. Claims 9-11, 13-19, 22-24, 26-32, 34-40 have been canceled. Claims 5, 8, 12, 21, 25, 33, 41, and 42 have been amended. Claims 43-58 have been added. No new matter has been added by the present amendment. Applicant respectfully requests consideration of the following remarks.

### **Detailed Action**

#### ***A. Status of the Application***

Applicant acknowledges the indefiniteness rejection and the art rejection of record of claims 10, 14, 18, 23, 27 and 31 have been overcome.

#### ***B. Specification***

Applicant submits the Deposit section has been amended in order to properly include both the hybrid maize plant 39W54 and the inbred parents (GE533274 x GE533275) x GE492318 within the Deposit paragraph on page 40. The changes do not add new matter as there is literal support for the minor changes on page 7 in the originally filed specification. The specification has now been amended to correct these minor changes.

In addition, Applicant submits that at least 2500 seeds of hybrid maize plant 39W54 and inbred parent plants (GE541031 = GE533274 x GE533275) x GE492318 have been deposited with the ATCC on May 3, 2002 and May 6, 2002, respectively. In view of these deposits, the rejections under 35 U.S.C. § 112, first paragraph should be removed (MPEP § 2411.02). Such action is respectfully requested.

In addition, Applicant has amended the specification to correct an inadvertent error in the originally filed specification. Applicant respectfully submits that hybrid 39W54 is a three way cross and not a single cross as inadvertently stated in the specification. Applicant submits that (GE533274 x GE533275) is made in the field. The seed from this cross makes GE541031. Applicant submits then GE541031 is crossed with GE492318 whereby the seed from this cross is the hybrid 39W54. Applicant apologizes for this inadvertent error. Applicant submits the changes do not add new matter as there is literal support for the minor changes on pages 7 and 40 in the originally filed specification.

### **Rejections Under 35 U.S.C. § 112, Second Paragraph**

Claims 8, 11-19, 21, 24-32, 39, and 42 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention, as stated in the last Office Action for claims 5-8, 10-19, 21, and 23-32.

Applicant respectfully traverses this rejection. Applicant wishes to reiterate that it is well known in the art that the hybrid 39W54 does represent elite germplasm produced from the crossing of inbred parent lines (GE533274 x GE533275) and GE492318 for character traits of major importance which will subsequently be used in a breeding population to further those elite traits. Applicant further asserts that it would be understood by one skilled in the art that the claimed maize plant or its parts contain at least 50% of the alleles inherited from the hybrid maize plant 39W54 having been deposited under an ATCC Accession No. to be disclosed upon allowance of subject matter. In addition, "[W]hen not defined by Applicant in the specification, the words of a claim must be given their plain meaning. In other words, they must be read as they would be interpreted by those of ordinary skill in the art", thereby alleviating this rejection. See *In re Sneed*, 710 F.2d 1544, 218 U.S.P.Q. 385 (Fed. Cir. 1983); See also MPEP § 2111.02. However, in order to expedite prosecution Applicant has canceled claims 9-11, 13-19, 22-24, 26-32, and 34-40, thereby alleviating this rejection to said claims.

The Examiner rejects claim 39 as indefinite for the recitation "A 39W54 maize plant ...deriving at least 50% of its alleles from 39W54" as confusing.

Applicant has now canceled claim 39, thus alleviating this rejection.

Claim 42 stands rejected as indefinite for failing to further limit claim 41.

Applicant has now amended claim 42 to read --A male sterile maize plant produced by the method of claim 41.--, as suggested by the Examiner. Applicant thanks the Examiner for the suggested language.

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

### **Rejections Under 35 U.S.C. § 112, First Paragraph**

Claims 11, 15, 19, 24, 28, 32, 34 and 38-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a

way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner states that there is no literal basis in the specification for the 50% allelic derivation language. Further the Examiner states that there is no basis for the double haploid method.

Applicant respectfully traverses this rejection. However, in an effort to expedite prosecution, Applicant has canceled claims 11, 15, 19, 24, 28, 32, 34 and 38-40 and added new claims 43-58, alleviating this rejection. In addition, Applicant has now amended claims 12 and 25 to include --contains one or more mutant genes or transgenes which have been introgressed therein, said mutant genes or transgenes selected from the group consisting of: a plant disease resistance gene, an insect resistance gene, a herbicide resistance gene, and a male sterility gene--, thereby limiting the claims to the types of transgenes that may be introduced and that are supported by the specification on pages 32-38. Applicant has amended the claims to be in the format indicated as allowable by the claims faxed by SPE Amy Nelson and Examiner David Fox. Further, claim 58 is a method claim that is adequately described in the specification on page 5, first full paragraph, thereby alleviating this rejection. Applicant asserts, as stated in the written description guidelines, an old process performed with a novel material is novel in and of itself. 66 Federal Register 1099, Vol. 66, No. 4 (January 5, 2001). See Example 10, Revised Interim Written Description Guidelines Training Materials, in which claim 1 therein is indicated as allowable. Applicant respectfully submits the claims now come within the purview of the written description requirement and request reconsideration.

Claim 33 stands rejected under 35 U.S.C. § 112, first paragraph as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is more nearly connected, to make and/or use the invention. The Examiner states the claim is drawn towards a method of making a hybrid plant designated 39W54 comprising crossing inbred maize plants (GE533274 x GE533275) and GE492318, however the Examiner states the terms of this deposit are not known.

Applicant respectfully traverses this rejection. Applicant herein submits the Deposits section has been amended in order to properly include both the hybrid maize plant 39W54 and the inbred parents (GE533274 x GE533275) and GE492318 within the Deposit paragraph on page 40. The changes do not add new matter as there is literal support for the minor changes on

page 7 in the originally filed specification. The specification has now been amended to correct these minor changes.

In addition Applicant submits that the actual ATCC deposit of hybrid 39W54 and inbred parents (GE541031 = GE533274 x GE533275) and GE492318 has been made. The Applicant provides assurance that:

- a) during the pendency of this application access to the invention will be afforded to the Commissioner upon request;
- b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- c) the deposit will be maintained in a public depository for a period of thirty years, or five years after the last request for the enforceable life of the patent, whichever is longer;
- d) a test of the viability of the biological material at the time of deposit will be conducted (see 37 C.F.R. § 1.807); and
- e) the deposit will be replaced if it should ever become inviable.

Therefore, Applicant submits at least 2500 seeds of hybrid maize plant 39W54 and the inbred parents (GE541031 = GE533274 x GE533275) and GE492318 have been deposited with the ATCC. In view of this assurance, the rejection under 35 U.S.C. § 112, first paragraph, should be removed. (MPEP § 2411.02) Such action is respectfully requested.

Claims 8-19, 21-32 and 34-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which is not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention, as stated in the last Office Action for claims 8-19 and 21-32. The Examiner stated that claims 12, 15, 25, 28 and dependents thereon are broadly drawn to any transgenic plant which contains any heterologous transgene of any sequence conferring any trait, and methods of using the transgenic plant. The Examiner further stated that claims 8, 16, 19, 21, 29, 32 and dependents thereon are broadly drawn to any "single gene conversion" plant comprising one or more traits introgressed into the claimed variety by backcrossing or other traditional means, and methods of using these plants.

Applicant respectfully traverses this rejection. Applicant asserts that the introgression of mutant genes and transgenes is easily, routinely and extensively practiced by those of ordinary skill in the art. Backcrossing has been known since the 1920's and, because of its predictability,

is the method preferred by commercial plant breeders to introduce transgenes into already developed and tested material. An example of how one of ordinary skill in the art can transfer a gene conferring a qualitative trait into a variety through backcrossing is demonstrated by the fact that the commercial market now distributes a multitude of products produced in this manner. Such conversion lines are easily developed without undue experimentation. As stated in Poehlman *et al.* (1995) on page 334, submitted in the Information Disclosure Statement, "a backcross derived inbred line fits into the same hybrid combination as the recurrent parent inbred line and contributes the effect of the additional gene added through the backcross." Applicant further points out that cytoplasmic male sterility genes do not introduce linked nuclear genes. Wych (1988) on page 585-586, submitted in the Information Disclosure Statement, discusses how the male sterility trait is routinely backcrossed into an inbred line and how this is used to produce a sterile/fertile blend of an F1 hybrid in order to reduce seed production costs. In fact, many commercial products are produced in this manner, and those of ordinary skill in the art consider the F1 hybrid produced with the male sterile inbred to be the same variety as the F1 hybrid produced with the fertile version of the inbred. Applicant also refers the Examiner to Openshaw *et al.* submitted herewith as Appendix A, which states the "the backcross breeding procedure is being used widely to transfer simply inherited traits into elite genotypes...Today, backcrossing is being used to transfer genes introduced by such techniques as transformation or mutation into appropriate germplasm."

Nonetheless, in an effort to expedite prosecution, Applicant has canceled claims 9-11, 13-19, 22-24, 26-32, and 34-40 and amended claims 12 and 25 to include --contains one or more mutant genes or transgenes which have been introgressed therein, said mutant genes or transgenes selected from the group consisting of: a plant disease resistance gene, an insect resistance gene, a herbicide resistance gene, and a male sterility gene--, thereby limiting the claims to the types of transgenes that may be introduced and that are supported within the specification as aforementioned. Applicant respectfully submits the claims come within the purview of the written description requirement and request reconsideration.

Claims 8, 12-19, 21, 25-32 and 34-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly

connected, to make and/or use the invention, for the reasons stated in the last Office Action for 8, 12-19, 21 and 25-32.

Applicant respectfully traverses this rejection. Applicant herein submits the Deposits section has been amended in order to properly include both the hybrid maize plant 39W54 and the inbred parents (GE533274 x GE533275) and GE492318 within the Deposit paragraph on page 40. The changes do not add new matter as there is literal support for the minor changes on page 7 in the originally filed specification. The Specification has now been amended to correct these minor changes. The Applicant further provides assurance that at least 2500 seeds of hybrid maize plant 39W54 and the inbred parents (GE533274 x GE533275) and GE492318 have been deposited with the ATCC. In view of this assurance, the rejection under 35 U.S.C. § 112, first paragraph, should be removed. (MPEP § 2411.02).

In addition, the Applicant would like to reiterate that a patent application "need not teach, and preferably omits, what is well known in the art." *Hybritech Inc. v. Monoclonal Antibodies Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81 (Fed. Cir. 1986); MPEP § 601.

Further, Applicant asserts transformation and backcrossing are two techniques that may be utilized to add a desirable trait to an already developed inbred or hybrid. As described herein and in the specification, such techniques are well known to those of ordinary skill in the art and may be practiced on the deposited material. Applicant has also added claim 58 to further describe the line produced in such a manner by traits that do not vary from the deposited line at a 5% significance level when measured in the same environmental conditions. Phenotypic traits, an identifying characteristic, are a method utilized by those of ordinary skill in the art to compare two lines, and are the method used by the patent office to evaluate the novelty of the deposited line itself. One of ordinary skill in the art of plant breeding would know how to evaluate the traits of two plant varieties to determine if there is no statistically significant variation when determined, for example, at a 5% significance level and when grown in the same environmental conditions between the traits expressed by those varieties. For the reasons aforementioned, it is respectfully submitted that Applicants' claims are sufficiently described and enabled by the specification.

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections to claims 8-19 and 21-40 under 35 U.S.C. § 112, first paragraph.

### **Summary**

Applicant acknowledges that claims 1-7, 20, and 41 are allowed.

Applicant acknowledges that claims 1-10, 12-14, 16-18, 20-23, 25-27 and 29-31 are deemed free of the prior art. The Examiner further states the prior art fails to teach or fairly suggest plants which derive 50% or more of their alleles from the exemplified hybrid. This clearly indicates that hybrid maize plant 39W54 as a whole is considered to be distinguishable from the prior art for the purposes of novelty and non-obviousness. Therefore, Applicant respectfully submits that the deposit of the representative seed of 39W54 and inbred parents (GE533274 x GE533275) and GE492318 should satisfy the description requirement. In light of the above, Applicant respectfully submits that the rejections under 35 U.S.C. § 112, first paragraph as improper and requests reconsideration and withdrawal of these rejections.

### **Conclusion**

In conclusion, Applicant submits in light of the above amendments and remarks, the claims as amended are in a condition for allowance, and reconsideration is respectfully requested. If it is felt that it would aid in prosecution, the Examiner is invited to contact the undersigned at the number indicated to discuss any outstanding issues.

This is a request under the provision of 37 C.F.R. § 1.136(a) to extend the period for filing a response in the above-identified application for two months from June 6, 2003 to August 6, 2003. Applicant is a large entity; therefore, a check is enclosed in the amount of \$410.00 to cover the cost of the extension.

Any deficiency or overpayment should be charged or credited to Deposit Account 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Lila Akrad".

LILA A. T. AKRAD, Reg. No. 52,550  
McKEE, VOORHEES & SEASE, P.L.C.  
801 Grand Avenue, Suite 3200  
Des Moines, Iowa 50309-2721  
Phone No. (515) 288-3667  
Fax No. (515) 288-1338  
**CUSTOMER NO: 27142**

Attorneys of Record

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